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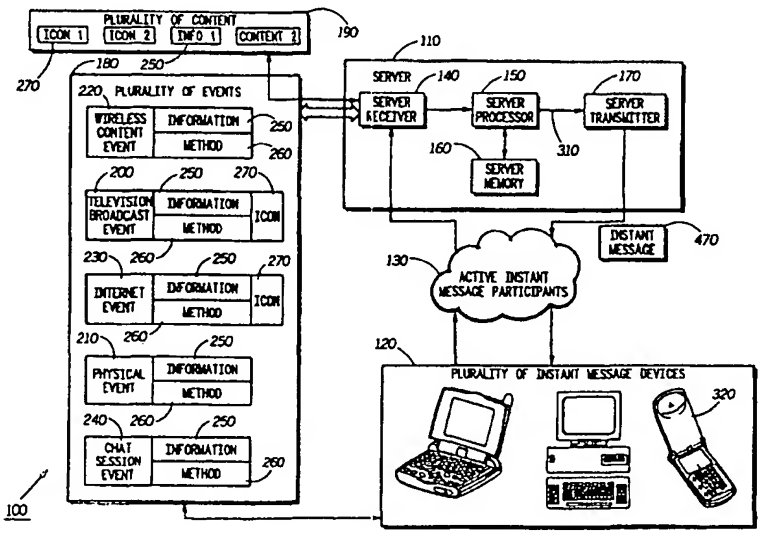
(54) Title: INSTANT MESSAGE COMMUNICATION SYSTEM FOR PROVIDING NOTIFICATION OF ONE OR MORE EVENTS AND METHOD THEREFOR



(57) Abstract: An instant message communication system (100) provides notification of one or more events (180). The instant message communication system (100) includes a server (110). The server (110) includes a server memory (160) for storing a plurality of screen names (280). Each of the plurality of screen names (280) represents one or more events (180). The server (110) further includes a server processor (150) coupled to the server memory (160), wherein the server processor (150) is programmed to activate at least one of the plurality of screen names (280) in response to the presence of one or more events (180) represented by at least one of the plurality of screen names (280).

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WO 03/094012 A1

Instant Message Communication System For Providing Notification of One or More Events And Method Therefor

Background of the Invention

Field of the Invention

This invention relates in general to instant message communication systems and in particular to instant message communication systems incorporating capabilities to provide notification of an event to instant message devices operating within the instant message communication system.

Description of the Related Art

Television viewing is growing in popularity worldwide. To meet the needs of its viewers, nationwide, regional and local television programming covering a variety of topics is available on a multitude of television channels. Some channels are topic-specific, for example sports or health, while others program an assortment of topics. Today, a viewer either "surfs" the channels during a time when he/she is available to watch a show; or previews a schedule of shows and topics periodically to know when an event of interest is airing.

To meet the needs of its viewers who are not able to always be in front of their television, many networks are now providing alternative viewing avenues. For example, access to sporting events is available through online website sources

including sports news, information, listings, real-time sports score tracking, games and special features about sports programming. Further sports radio programs provide spectators with live action through audio channels. Viewer interaction with others viewing a particular sporting event is currently available through the Internet using their personal computers.

Television programmers have found the proliferation of wireless devices as a particularly good avenue for providing programming information to viewers. One example of useful technology is United States patent number 6,167,235, issued December 26, 2000 to Sibecas et al. and titled "Method And Apparatus For Providing Additional Information To A Selective Call Device About A Broadcast" which is assigned to the assignee of the present invention, and which is incorporated by reference herein. This invention describes a technique in a selective call communication system and in a broadcast communication system to provide additional information about a broadcast to a selective call device. The transfer of connection information (e.g. URL (Uniform Resource Locator), Information service address and sub-address) is covered by the described invention.

One drawback of both the traditional viewing avenues and the newly created viewing avenues is the need for the viewers to manually be informed of the programming schedules. Viewers miss special events and other special programming when not informed of their occurrence.

With the proliferation of the Internet, the way people communicate is changing. Electronic communication such as electronic mail (email), and real time electronic messaging (e.g. instant messaging and chat messaging) is quickly replacing traditional telephonic communication and handwritten letters. Instant messaging

allows the simultaneous access to a message or a plurality of messages by multiple account users, with each account user capable of inputting a message or a plurality of messages to an instant messaging session. Each inputted message is relayed to instant messaging clients operating on instant messaging devices (such as computers) of the other account users who have chosen to participate in that instant messaging session. The other session participants can respond with their own messages, which are likewise relayed to all the participating devices. These messages are typically text messages that are delivered to the intended recipient(s) of the message in a real time manner. However, these messages may be in a variety of different media formats or combinations thereof such as audio, animation, video, images, etc. A session history of the messages received and transmitted by all participants involved in the messaging session is typically maintained on the individual participants' devices and typically presented on the screen of the respective device in the form of a scrolling dialog. This text history constitutes one of the attributes of the look and feel of the real time electronic messaging experience.

Each instant messaging session can have various types of session attributes such as session type, session connection info, participants, filter settings, colors, relative font sizes, etc. The account user can also have various types of preferences such as colors, relative font sizes, buddy lists, nicknames, and parental control settings. These are only a few examples of the attributes and preferences that can affect an instant messaging session.

In order to utilize instant messaging, an instant message device is pre-configured with, or the user installs, application client software distributed by a particular service provider. The client software connects to a server for

communication. To access the server, via a logon procedure, the client sends the routing information (e.g. IP address and number of the port assigned to the client, mobile phone number) of the instant message device being used, the account user's username, the account user's password, and the account user's current availability setting to the server. The server temporarily stores the routing and availability information for the account user's device. In response to the account user's login information (username and password), the server provides the messaging client with the account user's contact list. The server then determines the presence and availability of the account users in that contact list. If the server finds any of the contacts logged in (i.e. presence setting is online), it sends a message back to the messaging client on the instant message device with the presence and availability information for that account user. The server also sends the account user's presence and availability information to the people that have the account user in their contact list. The account user can click on the name of a person in his/her contact list who is online, and a window is created in which the account user can enter a message. The account user enters a message and clicks "send" to communicate with that person. The other person gets the message and can respond. Messages between account users can be addressed directly to the account user's instant message device or can be addressed to the username and sent via the server.

When the messaging session is complete, the account users close the message window for that messaging session. When the account user signs off, his/her messaging client sends a message to the server to terminate the account user's participation in the plurality of sessions. The server then sends an update of the account user's presence and availability information to the people that have the

account user in their contact list to indicate the account user has signed off. Finally, the server discards the routing and availability information for the account user's device. Currently, instant message communication is limited to person-to-person communication.

What is needed is the ability to deliver a notification to viewers about the presence and availability of an event of interest using instant message communication technology.

Brief Description of the Drawings

The present invention will be described by way of exemplary embodiments, but not limitations, illustrated in the accompanying drawings in which like references denote similar elements, and in which:

FIG. 1 illustrates a block diagram of one embodiment of an instant message communication system in accordance with the present invention;

FIG. 2 illustrates a block diagram of one embodiment of a server memory for use within a server of the instant message communication system of FIG. 1 in accordance with the present invention;

FIG. 3 illustrates an electronic block diagram of one embodiment of an instant message device for use within the instant message communication system of FIG. 1 in accordance with the present invention;

FIG. 4 illustrates one embodiment of an instant message user interface for use within the instant message device of FIG. 3 in accordance with the present invention;

FIG. 5 illustrates one embodiment of an instant message for use within the instant message communication system of FIG. 1 in accordance with the present invention;

FIG. 6 illustrates a block diagram of an alternate embodiment of a server memory for use within a server of the instant message communication system of FIG. 1 in accordance with the present invention;

FIG. 7 illustrates an alternate embodiment of an instant message user interface for use within the instant message device of FIG. 3 in accordance with the present invention;

FIG. 8 illustrates an alternate embodiment of an instant message for use within the instant message communication system of FIG. 1 in accordance with the present invention;

FIG. 9 illustrates an alternate embodiment of an instant message communication system in accordance with the present invention;

FIG. **10** illustrates an electronic block diagram of a content server for use in the instant message communication system of FIG. **9** in accordance with the present invention; and

FIGs. **11 – 14** are flowcharts illustrating various embodiments of the operation of the instant message communication system of FIGs. **1** and **9** in accordance with the present invention.

Detailed Description Of The Preferred Embodiment(s)

As required, detailed embodiments of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments are merely exemplary of the invention, which can be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure. Further, the terms and phrases used herein are not intended to be limiting; but rather, to provide an understandable description of the invention.

Referring to FIG. **1**, an instant message communication system **100** in accordance with the present invention is illustrated. The instant message communication system **100** preferably includes a server **110** and a plurality of instant message devices **120** selectively communicating as active instant message participants **130**.

The server **110** preferably includes a server receiver **140**, a server processor **150**, a server memory **160**, and a server transmitter **170**. In one embodiment of the present invention, the server receiver **140** functions by intercepting transmitted signals from a wireless communication system. It will be appreciated by one of ordinary skill in the art that the server receiver **140** can function by intercepting transmitted signals from any wireless radio frequency (RF) channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the server receiver **140** can function by intercepting transmitted signals from other types of wireless communication channels such as infrared channels and Bluetooth channels. In another embodiment, the server receiver **140** functions by intercepting signals from a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The server receiver **140** can operate by receiving signals from a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The server receiver **140** can operate by receiving signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the server receiver **140** can operate by receiving signals over a WAN that uses a different physical network media such as X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the server

receiver **140** can operate using any combination of the communication systems mentioned herein or an equivalent.

Preferably, and in accordance with the present invention, the server receiver **140** is coupled to and receives information about a plurality of events **180**. It will be appreciated by those of ordinary skill in the art that the plurality of events **180** can include, for example, physical events **210** such as sporting events, television or radio broadcast events **200**, wireless content events **220**, internet events **230**, chat session events **240**, or an equivalent. Each event can be separately designated within the instant message communications system **100**, or alternatively can be grouped within one or more topics (not shown). For example, a general topic can be the National Football League (NFL) and all events relating to the NFL such as a live NFL game or a pay per view broadcasted NFL game can be grouped within the general topic. Preferably, each of the plurality of events has associated with it a plurality of event information **250**, a method for event participation **260**, one or more event icons **270**, or an equivalent.

Preferably, and in accordance with the present invention, the server receiver **140** is further coupled to a plurality of content **190**. The plurality of content **190**, for example, can include one or more of the event icons **270** and/or one or more of the plurality of event information **250** associated with one or more of the plurality of events **180**. The plurality of content **190**, for example, can include weather, traffic, events, restaurants, shopping, services, sports, and the like.

Within the server **110**, the server receiver **140** is coupled to the server processor **150**. The server processor **150** utilizes conventional signal processing techniques for processing received signals from the server receiver **140**. Preferably,

the server processor **150** is similar to the MC68328 micro-controller manufactured by Motorola, Inc. of Schaumburg, Illinois. It will be appreciated that other similar processors can be utilized for the server processor **150**, and that additional processors of the same or alternative type can be added as required to handle the processing requirements of the server processor **150**.

To perform the necessary functions of the server **110**, the server processor **150** is coupled to the server memory **160**, which preferably includes a random access memory (RAM), a read-only memory (ROM), an electrically erasable programmable read-only memory (EEPROM), and/or a magnetic storage memory (for example a hard drive). FIG. **2** illustrates one embodiment of the server memory **160** in accordance with the present invention. As illustrated, the server memory **160** preferably stores a plurality of screen names **280**. Each screen name **290** of the plurality of screen names **280** represents one or more events such as an event **300** of the plurality of events **180**. The screen name **290**, the associated event **300**, and optionally, one or more event icons **270** associated with the event **300** are stored within the server memory **160** for use in accordance with the present invention.

The server processor **150**, in accordance with the present invention, is programmed to activate at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of one or more events such as the event **300** represented by the screen name **290**. The screen name **290** thereafter functions as one of the active instant message participants **130** of the instant message communication system **100**.

The server **110** can become aware of the presence of an event in a variety of techniques. For example, the event provider can originate an event notification. The

server **110** receives the event notification via the server receiver **140**. Alternatively, the event provider can send a schedule of events in advance. The server **110** receives the schedule of events via the server receiver **140** and can store the schedule of events in the server memory **160** (not shown) for later retrieval by the server processor **150**. Alternatively, the server **110** can include one or more search engines (not shown) to identify the availability of one or more of the plurality of events **180**.

The server processor **150**, in accordance with the present invention, can further be programmed to activate at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of the plurality of event information **250** about one or more events such as the event **300** represented by the screen name **290**. The screen name **290** thereafter functions as one of the active instant message participants **130** of the instant message communication system **100**. Similarly, the server processor **150**, in accordance with the present invention, can further be programmed to activate at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of the one or more event icons **270** associated with one or more events such as the event **300** represented by the screen name **290**. The screen name **290** thereafter functions as one of the active instant message participants **130** of the instant message communication system **100**.

The server transmitter **170** is coupled to and receives one or more command signals **310** from the server processor **150**, and in response to a command signal, communicates instant messages as an active instant message participant within the instant message communication system **100**. In one embodiment of the present invention, the server transmitter **170** functions by sending signals via a wireless

communication system. It will be appreciated by one of ordinary skill in the art that the server transmitter **170** can function by sending signals via any wireless radio frequency (RF) channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the server transmitter **170** can function by sending signals via other types of wireless communication channels such as infrared channels and Bluetooth channels. In another embodiment, the server transmitter **170** functions by sending signals via a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The server transmitter **170** can operate by sending signals via a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The server transmitter **170** can operate by sending signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the server transmitter **170** can operate by sending signals over a WAN that uses a different physical network media such as X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the server transmitter **170** can operate using any combination of the communication systems mentioned herein or an equivalent.

As illustrated in FIG. **1**, the instant message communication system **100** includes the plurality of instant message devices **120**. The plurality of instant message

devices **120** can include personal digital assistants, personal computers, interactive broadcast transceivers, and mobile communication devices, or an equivalent.

FIG. **3** illustrates an electronic block diagram of one embodiment of an instant message device **320** of the plurality of instant message devices **120** in accordance with the present invention. As illustrated, and in accordance with the present invention, the instant message device **320** includes a device receiver **330**, a device processor **340**, a device memory **350**, an instant message user interface **360**, and a device transmitter **370**.

The device receiver **330** receives messages sent within the instant message communication system **100** such as event presence notification messages. It will be appreciated by those of ordinary skill in the art that the event presence notification messages can be received by the device receiver **330** from the server **110**. Alternatively, the event presence notification messages can be received/detected directly by the device receiver **330** from the plurality of content **190** and/or the plurality of events **180**. For example, the event presence notification message can be sent via a short range communication system causing the device receiver **330** to receive an event presence notification message when the instant message device **320** is locally present within a short range of one or more events.

In one embodiment of the present invention, the device receiver **330** functions by intercepting transmitted signals from a wireless communication system. It will be appreciated by one of ordinary skill in the art that the device receiver **330** can function by intercepting transmitted signals from any wireless radio frequency (RF) channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the

art that the device receiver **330** can function by intercepting transmitted signals from other types of wireless communication channels such as infrared channels and Bluetooth channels. In another embodiment, the device receiver **330** functions by intercepting signals from a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The device receiver **330** can operate by receiving signals from a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The device receiver **330** can operate by receiving signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the device receiver **330** can operate by receiving signals over a WAN that uses a different physical network media such as X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the device receiver **330** can operate using any combination of the communication systems mentioned herein or an equivalent.

The device receiver **330** is coupled to the device processor **340**. The device processor **340** utilizes conventional signal processing techniques for processing received signals from the device receiver **330** including the event presence notification messages. Preferably, the device processor **340** is similar to the MC68328 micro-controller manufactured by Motorola, Inc. of Schaumburg, Illinois. It will be appreciated that other similar processors can be utilized for the device

processor **340**, and that additional processors of the same or alternative type can be added as required to handle the processing requirements of the device processor **340**.

To perform the necessary functions of the instant message device **320**, the device processor **340** is coupled to the device memory **350**, which preferably includes a random access memory (RAM), a read-only memory (ROM), an electrically erasable programmable read-only memory (EEPROM), and/or a magnetic storage memory (for example a hard drive). The device memory **350** preferably includes the storage of a plurality of device capabilities **390**, including a plurality of participation capabilities **400** and a plurality of communication capabilities **410**. The plurality of participation capabilities **400** can include, for example, the media supported (e.g. audio, video), device type, device protocol usage, device display, device battery life, device battery capacity or available power source, device processing power, device computing time power, and software applications. It will be appreciated by those of ordinary skill in the art that the plurality of participation capabilities **400**, in accordance with the present invention, can be any combination of the capabilities mentioned herein or an equivalent. The plurality of communication capabilities **410** can include, for example, available modem speed, protocol support, wireless communication capability, wired communication capability, or an equivalent. The plurality of communication capabilities **410** can further include the communication capability of the current device user. It will be appreciated by those of ordinary skill in the art that the plurality of communication capabilities **410**, in accordance with the present invention, can be any combination of the capabilities mentioned herein or an equivalent. Further, the device memory **350** preferably includes the storage of a

plurality of topic screen names of interest **405** and/or a plurality of event screen names of interest **415**.

The device transmitter **370** is coupled to and receives one or more command signals **380** from the device processor **340**, and in response to a command signal, communicates as an active instant message participant within the instant message communication system **100**. In one embodiment of the present invention, the device transmitter **370** functions by sending signals via a wireless communication system. It will be appreciated by one of ordinary skill in the art that the device transmitter **370** can function by sending signals via any wireless radio frequency (RF) channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the device transmitter **370** can function by sending signals via other types of wireless communication channels such as infrared channels and Bluetooth channels. In another embodiment, the device transmitter **370** functions by sending signals via a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The device transmitter **370** can operate by sending signals via a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The device transmitter **370** can operate by sending signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the device transmitter **370** can operate by sending signals over a WAN that uses a different physical network media such as

X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the device transmitter **370** can operate using any combination of the communication systems mentioned herein or an equivalent.

Preferably, the instant message device **320** includes an instant message user interface **360**. The instant message user interface **360**, for example, can include a display, a keyboard, a button or series of buttons, a mouse, a pen or puck activated table, a trackball, an audio activated command recognition processor, or an equivalent, that allows a device user to view, enter and manipulate information.

Each device user can configure the instant message user interface **360** with one or more user preferences. The user preferences can include, for example, a list of identifiers, referred to conventionally as screen names, which represent people the device user communicates with. The device user is notified when anyone on his/her list of identifiers signs onto the instant message communication system **100** as an active instant message participant, and thus can become available for communicating (referred to conventionally as chatting). This list of identifiers is commonly called a buddy list. Typically there is some indication as to the status of each of the buddies on the buddy list. For example, in one system a light bulb is changed from dark to light beside the users that are available. In another system the buddy's screen name appears in a buddy window. These are all in an effort to inform the device user of the presence of a person for real time electronic communication.

FIG. 4 illustrates one embodiment of the instant message user interface **360** in accordance with the present invention. As illustrated, the instant message user interface **360** preferably includes information displayed regarding one or more events

of interest **420**. The device user can manually enter the one or more screen names for the one or more events of interest **420** into the instant message user interface **360**. Alternatively, and in accordance with the present invention, the one or more screen names for the one or more events of interest **420** can be chosen from the plurality of screen names **280** stored in the server memory **160** of the server **110**. For example, the server **110** can send a list of the plurality of screen names **280** and the device user can choose from this list. It will be appreciated by those of ordinary skill in the art that the instant message user interface **360** can further include one or more identifiers of people the device user is interested in communicating with (not shown) in accordance with the present invention. As illustrated in FIG. 4, for each event of interest, at least one of an event identifier **430**, an event status **440**, an event presence indicator **450**, and/or an event availability indicator **460** can be displayed within the instant message user interface **360**.

The event identifier **430** represents the event **300** of the plurality of events of interest **420**. The event identifier **430**, in accordance with the present invention, preferably is the screen name **290** associated with the event **300**. The event identifier **430** can be programmed by the device user to be continuously present within the instant message user interface **360** of the instant message device **320**. Alternatively, the event identifier **430** can be activated within the instant message user interface **360** in response to a physical event. It will be appreciated that the event identifier **430** can be activated within the instant message user interface **360** as described herein or an equivalent.

Each event identifier **430** preferably has an associated event status **440**. The event status **440** provides visual and/or audible notification to the device user of the

presence of the event **300**. This is a flexible, simple and effective way to allow the device user to provision the instant message device **320**, on a personal basis, for notification of events of interest to the device user. Preferably, the event status **440** changes in response to the notification from the server **110** of the presence of the event **300**.

In one embodiment of the present invention, the event presence indicator **450** is associated with the event identifier **430** for the event **300**. Preferably, the event presence indicator **450** changes in response to the notification from the server **110** of the presence of the event **300**. The device user, in accordance with the present invention, can configure the level of interest for each screen name **290** and associated event **300**. For example, the user could enter football, and receive all the football "presence" notifications that would include the all football teams and change the presence indicator **450** accordingly. Alternatively, the device user can choose one football team and receive only football events related to that chosen football team and change the presence indicator **450** accordingly. The user could further restrict the level of interest by entering football games only to limit the "presence" to an actual football game and change the presence indicator **450** accordingly.

In one embodiment of the present invention, the event availability indicator **460** is associated with the event identifier **430** for the event **300**. Preferably, the event availability indicator **460** changes in response to the notification from the server **110** of the presence of the event **300** along with one or more other factors. For example, the event availability indicator **460** can change when the instant message device **320** includes the capability to participate in the event **300**. Referring to FIG. **3**, the device processor **340**, in response to receiving a notification of the presence of an event,

retrieves the plurality of participation capabilities **400** from the device memory **350**. When the plurality of participation capabilities **400** provide the capability for the instant message device **320** to participate in the event **300**, the device processor **340** sends a command to the instant message user interface **360** to change the event availability indicator **460**. Similarly, the event availability indicator **460** can change when the device user has the communication capability to participate in the event **300**. It will be appreciated by those of ordinary skill in the art that the device user can have the capability to participate in the event using an alternative device and/or communication channel. In this case, the event availability indicator **460** can change within the instant message user interface **360** of the instant message device **320** to inform the device user. Then, the device user can retrieve the event and/or information using the alternative device and/or communication channel.

Referring to FIG. **3**, the device processor **340**, in response to receiving a notification of the presence of an event, retrieves the plurality of communication capabilities **410** from the device memory **350**. When the plurality of communication capabilities **410** provide the capability for the device user to participate in the event **300** using the instant message device **320**, the device processor **340** sends a command to the instant message user interface **360** to change the event availability indicator **460**. Alternatively, the device processor **340**, in response to receiving a notification of the presence of an event, queries the device user to determine whether the communication capabilities of the device user provide the capability for the device user to participate in the event **300**. When the device user has the communication capability to participate in the event, the device processor **340** sends a command to the instant message user interface **360** to change the event availability indicator **460**.

For example, the device user can add the event identifier **430** for his/her favorite football team to the instant message user interface **360** of his/her instant message device **320**. When a football game for the favorite football team was about to start or an official event / announcement / chat session about the football team was about to start, the owner of the football screen name would log into the instant message communication system **100** using the server **110**. Alternatively, the server **110** can automatically detect the event and log onto the instant message communication system **100**. In response, the event status **440** associated with the event identifier **430** for the football team would change on the instant message user interface **360**. In one embodiment, the event presence indicator **450** and/or the event availability indicator **460** also changes. In one embodiment, after the presence notification has been distributed, an instant message can be sent from the server to the instant message device(s) informing of and/or linking them to the event details. In one embodiment, an event buddy list **465** is displayed for the event **300** along with the event identification **430** and other associated information as described herein. The event buddy list **465** includes all those device users within the instant message communication system **100** who have chosen the event **300** as an event of interest.

FIG. **5** illustrates one embodiment of an instant message **470** for use within the instant message communication system **100** of FIG. **1** in accordance with the present invention. The instant message **470** can be sent, for example, from the server **110** to one or more of the plurality of instant message devices **120**. The instant message **470** preferably includes at least one of an instant message (IM) header **480**, the screen name **290**, a presence prompt **490**, an availability prompt **500**, and a participation method **510**. The IM header **480** includes the information required to communicate

the instant message **470** within the instant message communication system **100** in accordance with the particular protocol and/or system being utilized. The screen name **290** is one of the plurality of screen names **280** associated with the event **300** of which the notification is being sent. The presence prompt **490** is an indication within the instant message communication system **100** of the presence of the event **300**.

The availability prompt **500** is an indication within the instant message communication system **100** of the availability of the event **300**. The participation method **510** includes information of how to participate in the event **300**. For example, the participation method **510** can include a URL of the web site in which the event **300** will be displayed. Alternatively, the participation method **510** can include a broadcast television channel in which the event **300** will be broadcast.

For example, when the event **300** is a television show relating to sharks, and the television channel has an additional active website link with a famous knowledgeable shark expert while the television show on sharks is being played, the instant message **470** can include the IM header **480**, the screen name **290** of "sharks", the presence prompt **490** indicating the presence of the shark expert on the website, the availability prompt **500** indicating when the shark expert is available, and the participation method **510** of the URL to the website. Within the same instant message **470**, the information relating to the television broadcast can also be sent. For example the instant message **470** can further include the presence prompt **490** indicating the presence of the television show, the availability prompt **500** indicating when the television show is available, and the participation method **510** indicating the television channel. Alternatively, the instant message device **320** upon receipt of the presence prompt **490** can determine the availability of the event. For example, availability can

include information relating to no access to the cable television, blacked out event, or an equivalent.

Within the instant message device **320**, the device receiver **330** receives the instant message **470** preferably including the participation method **510**. The device processor **340** retrieves the event **300** associated with the screen name **290** in response to the device receiver **330** receiving the instant message **470**. Alternatively, and in accordance with the present invention, the device user can utilize another device to retrieve the event and/or the participation method.

In an alternate embodiment of the present invention, each screen name of the plurality of screen names **280** within the instant message communication system **100** represents a topic. The topic includes one or more events associated with the topic.

FIG. **6** illustrates one embodiment of the server memory **160** of the server **110** of FIG. **1** in accordance with the present invention. As illustrated, the server memory **160** preferably stores a plurality of topic screen names **520**. Each topic screen name **530** of the plurality of topic screen names **520** represents a topic **540** including a plurality of topic events **550**. The topic screen name **530**, the topic **540**, and the plurality of topic events **550** are stored within the server memory **160** for use in accordance with the present invention.

The server processor **150** of the server **110**, in accordance with the present invention, activates at least one of the plurality of topic screen names **520** in response to the presence of at least one of the plurality of topic events **550** associated with the topic **540** represented by the topic screen name **530**. The server processor **150** then sends a command signal to the server transmitter **170** to transmit a notification of the presence of the event associated with the topic **540**.

FIG. 7 illustrates one embodiment of the instant message user interface **360** of the instant message device **120** in accordance with the present invention. As illustrated, the instant message user interface **360** preferably includes information displayed regarding one or more topics of interest such as the topic **540**. The device user can manually enter the one or more topic screen names for the one or more topics of interest into the instant message user interface **360**. Alternatively, and in accordance with the present invention, the one or more topic screen names for the one or more topics of interest can be chosen from the plurality of topic screen names **530** stored in the server memory **160** of the server **110**. For example, the server **110** can send a list of the plurality of topic screen names **530** and the device user can choose from this list. It will be appreciated by those of ordinary skill in the art that the instant message user interface **360** can further include one or more identifiers of people the device user is interested in communicating with (not shown) in accordance with the present invention. As illustrated in FIG. 7, preferably, for each topic **540**, a topic screen name indicator **560**, a topic screen name status **570**, and a topic screen name history **580** can be displayed within the instant message user interface **360**.

The topic screen name indicator **560** represents the topic **540** of the plurality of topics of interest to the device user. The topic screen name indicator **560**, in accordance with the present invention, preferably is the screen name **290** associated with the topic **540**. The topic screen name indicator **560** can be programmed by the device user to be continuously present within the instant message user interface **360** of the instant message device **320**. Alternatively, the topic screen name indicator **560** can be added within the instant message user interface **360** in response to a physical

event. It will be appreciated that the topic screen name indicator **560** can be added to the instant message user interface **360** as described herein or an equivalent.

Each topic screen name indicator **560** preferably has an associated topic screen name status **570**. The topic screen name status **570** provides visual and/or audible notification to the device user of the presence of the information associated with the topic **540**. This is a flexible, simple and effective way to allow the device user to provision the instant message device **320**, on a personal basis, for notification of topics of interest to the device user. Preferably, the topic screen name status **570** changes in response to the notification from the server **110** of the presence of the information associated with the topic **540**.

The topic screen name history **580** preferably includes information associated with the plurality of topic events **550** such as the topic screen name history **580** includes the event identifier **430**, the event status indicator **440**, the event presence indicator **450**, and the event availability indicator **460** for the event **300** of the plurality of topic events **550** as described previously herein.

When the instant message device **320** receives a notification of the presence of one of the plurality of topic events **550** such as a first event **670**, the topic screen name indicator **560** is displayed or changes on the instant message user interface **360**. Additionally or alternatively, the topic screen name status **570** can change on the instant message user interface **360**. Further, a first event identifier **600** is displayed or changes within the topic screen name history **580** of the instant message user interface **360**. Additionally or alternatively, a first event status indicator **590** can change within the topic screen name history **580** of the instant message user interface **360**. Similarly, a first event presence indicator **610** and/or a first event availability indicator

620 can be displayed and/or changed. A first event buddy list 625 is preferably also displayed. When the instant message device 320 receives a notification of the presence of one of the plurality of topic events 550 such as a second event 680, the topic screen name indicator 560 continues to be displayed on the instant message user interface 360. Additionally or alternatively, the topic screen name status 570 continues to be displayed as active on the instant message user interface 360. Further, a second event identifier 640 is displayed or changes within the topic screen name history 580 of the instant message user interface 360. Additionally or alternatively, a second event status indicator 630 can change within the topic screen name history 580 of the instant message user interface 360. Similarly, a second event presence indicator 650 and/or a second event availability indicator 660 can be displayed and/or changed. A second event buddy list 665 is preferably also displayed.

In one embodiment, the topic screen name indicator 560 is displayed continuously from the presence of the first event through the presence of the second event on the instant message user interface 360 in response to the instant message device 320 receiving notification of the presence of the second event 680 when the first event 670 is no longer present.When one screen name functions for multiple events such as described herein, one source can gather the event information for the instant message status changes and updates. Anytime an event was present the server would keep the instant status as "present" even if the event that initially caused the to change status to "present" was now over the event can maintain the "present" status if another event was still active. In one embodiment, a list of topic buddies 690 can be displayed along with the topic screen name indicator 560 on the instant message user

interface **360**. Alternatively or additionally, the list of event buddies **465** can be displayed along with the event indicator **430** on the instant message user interface **360**.

The plurality of content **190**, as described herein in FIG. **1** can include one or more event icons **270** associated with the topic **540**. FIG. **8** illustrates one embodiment of the instant message **470** for use within the instant message communication system **100** of FIG. **1** in accordance with the present invention. The instant message **470** can be sent, for example, from the server **110** to one or more of the plurality of instant message devices **120**. The instant message **470** preferably includes the instant message (IM) header **480**, the topic screen name **530**, and an icon presence indicator **700**. When the server **110** detects the presence of one or more event icons **270**, the server **110** sends the instant message **470** including the topic screen name **530** and the icon presence indicator **700** associated with the event **300** of the topic **540**. In response to receiving the instant message **470**, preferably, the topic screen name status **570** for the topic **540** changes and/or the topic screen name indicator **560** is displayed. Additionally or alternatively, the event identifier **430** and/or the event status indicator **440** changes and/or is displayed.

FIG. **9** illustrates an alternate embodiment of the instant message communication system **100** in accordance with the present invention. The instant message communication system **100** preferably includes a content server **710**, an instant message server **720** and the plurality of instant message devices **120** selectively communicating within one or more of a plurality of instant message communication sessions **730**.

Preferably, and in accordance with the present invention, the content server **710** is coupled to and receives information about the plurality of events **180**. It will be appreciated by those of ordinary skill in the art that the plurality of events **180** can include, for example, physical events **210** such as sporting events, television or radio broadcast events **200**, wireless content events **220**, internet events **230**, chat session events **240**, or an equivalent. Each event can be separately designated within the instant message communications system **100**, or alternatively can be grouped within one or more topics (not shown). For example, a general topic can be the National Football League (NFL) and all events relating to the NFL such as a live NFL game or a pay per view broadcasted NFL game can be grouped within the general topic. Preferably, each of the plurality of events has associated with it the plurality of event information **250**, the method for event participation **260**, one or more event icons **270**, or an equivalent.

Preferably, and in accordance with the present invention, the content server **710** is further coupled to the plurality of content **190**. The plurality of content **190**, for example, can include one or more of the event icons **270** and/or one or more of the plurality of event information **250** associated with one or more of the plurality of events **180**. The plurality of content **190**, for example, can include weather, traffic, events, restaurants, shopping, services, sports, and the like.

The content server **710** can become aware of the presence of an event in a variety of ways. For example, the event provider can originate an event notification. The content server **710** receives the event notification via the content receiver **740**. Alternatively, the event provider can send a schedule of events in advance. The content server **710** receives the schedule of events via the content receiver **740** and

can store the schedule of events in the server memory **160** (not shown) for later retrieval by the content processor **750**. Alternatively, the content server **710** can include one or more search engines (not shown) to identify the availability of one or more of the plurality of events **180**.

The content server **710** is coupled to the instant message server **720**. The content server **710** establishes communication with the instant message server **720** in response to the presence of one or more of the plurality of events **180** or one or more of the plurality of content **190** associated with the one or more of the plurality of events **180**. The instant message server **720** manages the communication of one or more instant messages of a plurality of instant message communication sessions **730** among the plurality of instant message devices **120**. Preferably, the instant message server **720** sends the instant message **470** in response to the content server **710** establishing communication with the instant message server **720**.

FIG. **10** illustrates an electronic block diagram of the content server **710** in accordance with the present invention. The content server **710** preferably includes a content receiver **740**, a content processor **750**, the server memory **160**, and a communicator **760**. In one embodiment of the present invention, the content receiver **740** functions by intercepting transmitted signals from a wireless communication system. It will be appreciated by one of ordinary skill in the art that the content receiver **740** can function by intercepting transmitted signals from any wireless radio frequency (RF) channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the content receiver **740** can function by intercepting transmitted signals from other types of wireless communication channels

such as infrared channels and Bluetooth channels. In another embodiment, the content receiver **740** functions by intercepting signals from a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The content receiver **740** can operate by receiving signals from a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The content receiver **740** can operate by receiving signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the content receiver **740** can operate by receiving signals over a WAN that uses a different physical network media such as X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the content receiver **740** can operate using any combination of the communication systems mentioned herein or an equivalent. Preferably, and in accordance with the present invention, the content receiver **740** is coupled to and receives information about the plurality of events **180**. Similarly, and in accordance with the present invention, the content receiver **740** is further coupled to the plurality of content **190**.

Within the content server **710**, the content receiver **740** is coupled to the content processor **750**. The content processor **750** utilizes conventional signal processing techniques for processing received signals from the content receiver **740**. Preferably, the content processor **750** is similar to the MC68328 micro-controller manufactured by Motorola, Inc. of Schaumburg, Illinois. It will be appreciated that

other similar processors can be utilized for the content processor **750**, and that additional processors of the same or alternative type can be added as required to handle the processing requirements of the content processor **750**.

To perform the necessary functions of the content server **710**, the content processor **750** is coupled to the server memory **160**, which preferably includes a random access memory (RAM), a read-only memory (ROM), an electrically erasable programmable read-only memory (EEPROM), and/or a magnetic storage memory (for example a hard drive). The server memory **160** is as illustrated for FIGs. **2** and **6** and as described previously herein.

The communicator **760** is coupled to and receives one or more command signals from the content processor **750**, and in response to a command signal, establishes communication with the instant message server **720** within the instant message communication system **100**. The content server **710** can establish communication with the instant message server **720** using at least one of the plurality of screen names **280** stored in the server memory **160** in response to the presence of the event **300**, associated content, and/or the plurality of event information **250**. Similarly, the content server **710** can establish communication with the instant message server **720** using one of the plurality of topic screen names **530** stored in the server memory **160** in response to the presence of an event and/or content associated with the topic **540**.

In one embodiment of the present invention, the communicator **760** functions by sending and receiving signals via a wireless communication system. It will be appreciated by one of ordinary skill in the art that the communicator **760** can function by sending and receiving signals via any wireless radio frequency (RF) channel, for

example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the communicator **760** can function by sending signals via other types of wireless communication channels such as infrared channels and Bluetooth channels. In another embodiment, the communicator **760** functions by sending and receiving signals via a wired communication system, for example from a local area network (LAN) or a wide area network (WAN) or a combination of both. The communicator **760** can operate by sending signals via a network that uses a physical network such as ARCNET, Ethernet, Token-ring, Local Talk or other network media. The communicator **760** can operate by sending signals over a LAN that employs any one of a number of networking protocols, such as TCP/IP (Transmission Control Protocol/Internet Protocol), AppleTalk™, IPX/SPX (Inter-Packet Exchange/Sequential Packet Exchange), Net BIOS (Network Basic Input Output System) or any other packet structures. Further the communicator **760** can operate by sending and receiving signals over a WAN that uses a different physical network media such as X.25, Frame Relay, ISDN, Modem dial-up or other media to connect other computers or other local area networks. It will be appreciated by one of ordinary skill in the art that the communicator **760** can operate using any combination of the communication systems mentioned herein or an equivalent.

The content processor **750**, in accordance with the present invention, is programmed to use the communicator **760** to establish communication with the instant message server **720** utilizing at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of the event **300** represented by the screen name **290**.

The content server **710** can become aware of the presence of an event in a variety of ways. For example, the event provider can originate an event notification. The content server **710** receives the event notification via the content receiver **740**. Alternatively, the event provider can send a schedule of events in advance. The content server **710** receives the schedule of events via the content receiver **740** and can store the schedule of events in the server memory **160** (not shown) for later retrieval by the content processor **750**. Alternatively, the content server **710** can include one or more search engines (not shown) to identify the availability of one or more of the plurality of events **180**.

The content processor **750**, in accordance with the present invention, can further be programmed to use the communicator **760** to establish communication with the instant message server **720** utilizing at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of the plurality of event information **250** about the event **300** represented by the screen name **290**. Similarly, the content processor **750**, in accordance with the present invention, can further be programmed to use the communicator **760** to establish communication with the instant message server **720** utilizing at least one of the plurality of screen names **280** such as the screen name **290** stored in the server memory **160** in response to the presence of the one or more event icons **270** associated with the event **300** represented by the screen name **290**.

FIG. **11** illustrates the operation of the instant message communication system **100** of FIGs. **1** and **9** in accordance with the present invention. Specifically, FIG. **11** illustrates a method for providing notification of one or more events within an instant message communication system. As illustrated, the process begins with Step **770** in

which at least one screen name **290** of the plurality of screen names **280** is associated with at least one event **300** of the plurality of events **180** and stored in the server memory **160**. It will be appreciated by those of ordinary skill in the art that the server memory **160** can be contained within the server **110** of FIG. **1** or the content server **710** of FIG. **9** in accordance with the present invention. Next, in Step **780**, the process determines whether the presence of at least one event of the plurality of events **180** is detected. For example, the server **110** of FIG. **1** can detect the presence of the event as described previously herein. Similarly, the content server **710** of FIG. **9** can detect the presence of the event as described previously herein. In Step **790**, when no event presence is detected in Step **780**, the process determines whether the presence of an event information of the plurality of event information **250** associated with at least one event of the plurality of events **180** is detected. For example, the server **110** of FIG. **1** can detect the presence of the event information as described previously herein. Similarly, the content server **710** of FIG. **9** can detect the presence of the event information as described previously herein. When no event information presence is detected in Step **790**, the process cycles back to Step **780**. When at least one event is detected in Step **780** or when at least one event information is detected in Step **790**, in Step **800**, the process determines whether the event whose presence is detected is associated with the stored plurality of screen names **280**. For example, within the server **110** of FIG.**1**, the server receiver **140** can detect the presence of an event or alternatively the presence of event information. The server processor **150** is programmed to compare the event for which a presence of the event or event information has been detected with the plurality of screen names **280** stored within the server memory **160**. Similarly, within the content server **710** of FIGs. **9** and **10**, the

content receiver **740** can detect the presence of an event or alternatively the presence of event information. The content processor **750** is programmed to compare the event for which a presence of the event or event information has been detected with the plurality of screen names **280** stored within the server memory **160**. In Step **810**, when the event is not associated with at least one of the plurality of screen names **180** stored in the server memory **160** in Step **800**, the process determines whether the event for which the presence or the event information was received is to be assigned a screen name and stored within the server memory **160**. For example, the event presence notification can include an instruction to add the event. Alternatively, the server processor **150** of the server **110** or the content processor **750** of the content server **710** can be programmed with an algorithm to determine whether to add the event. Further, a device user within the instant message communication system **100** can manually be queried and respond as to whether or not to assign and store a screen name for the new event. When a screen name is not to be assigned for the new event, the process ends. When a screen name is to be assigned for the new event, the process returns to Step **770**. In Step **820**, when the event for which the event presence or the event information presence has been detected is associated with a stored screen name, a communication within the instant message communication system **100** using the screen name is established. For example, the server **110** can sign onto the instant message communication system **100** using the screen name **290**. Similarly, the content server **710** can establish communication with the instant message server **720** of the instant message communication system **100**. The operation then proceeds to node A and also returns to Step **780** to continue checking for the detection of the presence of an event within the instant message communication system **100**.

FIG. 12 illustrates one embodiment of the operation of the instant message communication system **100** starting from node A in accordance with the present invention. As illustrated, in Step **830** an event notification is communicated within the instant message communication system **100**. In one embodiment, the event notification, in accordance with the present invention, is the instant message **470** sent from the server **110** to the plurality of instant message devices **120** within the instant message communication system **100** of FIG. **1**. Alternatively, the event notification, in accordance with the present invention, is the instant message **470** sent from the instant message server **720** to the to the plurality of instant message devices **120** within the instant message communication system **100** of FIG. **9** as described previously herein. Next, in Step **840**, an event identification is changed within the instant message user interface **360** of at least one of the plurality of instant message devices **120**. In accordance with the present invention, the event identification **430**, the event status **440**, the event presence indicator **450**, the event availability indicator **460**, and/or an equivalent can change. It will be appreciated by those of ordinary skill in the art that any identification associated with the event and/or screen name assigned to the event can change within the instant message user interface **360** in accordance with the present invention. Next, in Step **850**, the process determines whether the participation method **510** is included within the event notification. When no participation method is included, the process ends. In Step **860**, when the participation method **510** is included within the event notification, at least one of the plurality of instant message devices **120** retrieves the event using the participation method **510**.

FIG. 13 illustrates one embodiment of the operation of the instant message communication system **100** in accordance with the present invention. Specifically, FIG. 13 illustrates the operation of the instant message communication system **100** using at least one topic **540** for grouping one or more of the plurality of topic events **550**. The process begins with Step **870** in which one or more of the plurality of topic events **550** are assigned to one or more topics such as the topic **540**. Next, in Step 880, at least one topic screen name **530** of the plurality of topic screen names **520** is associated with at least one of the plurality of topic events **550** and stored in the server memory **160**. It will be appreciated by those of ordinary skill in the art that the server memory **160** can be contained within the server **110** of FIG. 1 or the content server **710** of FIGs. **9** and **10** in accordance with the present invention. Next, in Step **780**, the process determines whether the presence of at least one event of the plurality of events **180** is detected. For example, the server **110** of FIG. **1** can detect the presence of the event as described previously herein. Similarly, the content server **710** of FIGs. **9** and **10** can detect the presence of the event as described previously herein. In Step **790**, when no event presence is detected in Step **780**, the process determines whether the presence of an event information of the plurality of event information **250** associated with at least one event of the plurality of events **180** is detected. For example, the server **110** of FIG. **1** can detect the presence of the event information as described previously herein. Similarly, the content server **710** of FIG. **9** and **10** can detect the presence of the event information as described previously herein. When no event information presence is detected in Step **790**, the process cycles back to Step **780**. When at least one event is detected in Step **780** or when at least one event information is detected in Step **790**, in Step **890**, the process determines whether the

event in which the presence has been detected or in which event information has been detected is associated with one or more topics such as the topic **540**. For example, the server processor **150** of the server **110** of FIG. **1** can be programmed to compare the event to the topics and associated plurality of topic events **550** stored in the server memory **160**. Similarly, the content processor **750** of the content server **710** of FIGs. **9** and **10** can be programmed to compare the event to the topics stored in the server memory **160** and associated plurality of topic events **550**. In Step **900**, when the event is not associated with at least one topic **540** stored in memory, the process determines whether the event should be added to one or more topics. For example, the event presence notification can include an instruction to add the event to one or more topics. Alternatively, the server processor **150** of the server **110** or the content processor **750** of the content server **710** can be programmed with an algorithm to determine whether to add the event to one or more topics. (i.e. using keywords) Further, a device user within the instant message communication system **100** can manually be queried and respond as to whether or not to assign and store the new event with one or more topics. When the event is not to be added to at least one topic, the process ends. When the event is to be added to at least one topic, the process cycles back to Step **870**. In Step **910**, when the event is associated with at least one topic in Step **890**, the process next determines whether the topic **540** is associated with at least one of the plurality of topic screen names 520 stored in the server memory **160**. For example, within the server **110** of FIG.1, the server processor **150** can be programmed to compare the topic with the plurality of topic screen names **520** stored within the server memory **160**. Similarly, within the content server **710** of FIGs. **9** and **10**, the content processor **750** can be programmed to compare the topic with the plurality of topic

screen names **520** stored within the server memory **160**. In Step **930**, when the topic is associated with at least one stored topic screen name **530**, a communication within the instant message communication system **100** using the topic screen name **530** is established. For example, the server **110** can sign onto the instant message communication system **100** using the topic screen name **530**. Similarly, the content server **710** can establish communication with the instant message server **720** of the instant message communication system **100**. The operation then proceeds to node A and also returns to Step **780** to continue checking for the detection of the presence of an event within the instant message communication system **100**. In Step **920**, when the topic **540** is not associated with at least one of the plurality of topic screen names **520** stored in memory, the process determines whether the topic **540** should be added along with an associated topic screen name. For example, the event presence notification can include an instruction to add the topic **540**. Alternatively, the server processor **150** of the server **110** or the content processor **750** of the content server **710** can be programmed with an algorithm to determine whether to add the topic. Further, a device user within the instant message communication system **100** can manually be queried and respond as to whether or not to assign and store the new topic with one or more topic screen names. When topic is not to be added, the process ends. When the topic is to be added, the process cycles back to Step **880**.

FIG. **14** illustrates one embodiment of the operation of the instant message device **320** within the instant message communication system **100** in accordance with the present invention. As illustrated, the process begins at Step **940** with a counter set to N=1. Next, in Step **950**, the process determines whether an event notification has been received. For example, the device receiver **330** of the instant message device

320 can receive the instant message 470 including notification of the presence of at least one event of the plurality of events 180. When no event presence notification is received, the process cycles back to Step 950 and periodically checks for receipt. In Step 960, when an event presence notification is received, the instant message device 320 determines whether or not the screen name received is associated with at least one topic. For example, the device processor 340 of the instant message device 320 can be programmed to compare the screen name received to the list of topic screen names of interest 405 stored in the device memory 350. In Step 980, when the topic is associated with at least one screen name, the screen name is displayed on the instant message device 320. For example, the topic screen name 530 for the topic 540 can be displayed on the instant message user interface 360 of the instant message device 320. In Step 970, when the topic is not associated with at least one screen name, the instant message device 320 determines whether or not the screen name received is associated with at least one event. For example, the device processor 340 of the instant message device 320 can be programmed to compare the screen name received to the list of event screen names of interest 415 stored in the device memory 350. When the screen name is not associated with at least one of event, the process cycles back to Step 950. When the screen name is associated with at least one event in Step 970, and after the screen name is displayed in Step 980, in Step 982, the process queries whether the device user of the instant message device 320 has the communication capability to participate in the event. Next, in Step 984, when the device user has the communication capability to participate in the event, the process queries whether the instant message device 320 has the capability to participate in the event. Next, in Step 990, when the instant message device 320 has the capability to participate in the

event, the Nth event is displayed on the instant message user interface **360** of the instant message device **320**. The Nth event can be displayed by changing any combination of the event identifier, the event status indicator, the event presence indicator, the event availability indicator, or an equivalent. Next, and when the device user does not have the communication capability to participate in the event or the instant message device 320 does not have the capability to participate in the event, in Step **1000**, the counter is incremented to N=N+1. The process then cycles back to Step **950**.

The invention as described herein provides the ability to deliver a notification to viewers about the presence and availability of an event of interest using instant message communication technology. Although the invention has been described in terms of preferred embodiments, it will be obvious to those skilled in the art that various alterations and modifications can be made without departing from the invention. Accordingly, it is intended that all such alterations and modifications be considered as within the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

CLAIMS

1. An instant message communication system for providing notification of one or more events, the instant message communication system comprising:

a server comprising:

a server memory for storing a plurality of screen names, wherein each of the plurality of screen names represents one or more events, and

a server processor coupled to the server memory, wherein the server processor is programmed to activate at least one of the plurality of screen names in response to the presence of one or more events represented by at least one of the plurality of screen names.

2. An instant message communication system for providing notification of one or more events comprising:

a server comprising:

a server memory for storing a plurality of topic screen names, wherein each of the plurality of topic screen names represents a topic, and for storing a plurality of topic events associated with the topic,

a server processor coupled to the server memory, wherein the server processor is programmed to activate at least one of the plurality of screen names in response to the presence of at least one topic event associated with the topic represented by the at least one of the plurality of screen names, and

a server transmitter for sending a notification of the presence of the one or more events; and

one or more instant message devices, wherein each instant message device includes an instant message user interface, wherein the instant message user interface displays for each of the plurality of topic screen names:

a topic screen name indicator, and

a topic screen name history, wherein the topic screen name history includes at least one identifier selected from the group of identifiers consisting of an event identifier, an event status, an event presence indicator, an event availability indicator, and an event buddy list, and further wherein at least one identifier changes in response to the instant message device receiving the presence of the event notification.

3. An instant message communication system for providing notification of one or more events comprising:

a server for receiving and processing a plurality of content, wherein the plurality of content includes one or more icons associated with one or more events and for sending a notification message including the presence of an icon associated with an event; and

one or more instant message devices coupled to the server, wherein each instant message device comprises:

a device receiver for receiving the notification message including the presence of the icon,

a device processor coupled to the device receiver for processing the message including the presence of the icon, wherein the device processor is programmed to send a control signal to an instant message user interface in response to receiving and processing the icon, and

the instant message user interface coupled to the device processor, wherein the instant message user interface includes at least one identifier selected from the group of identifiers consisting of an event identifier, an event status, an event presence indicator, an event availability indicator, and an event buddy list, and further wherein at least one identifier changes in response to the instant message user interface receiving the control signal from the device processor.

4. An instant message communication system for providing notification of one or more events comprising:

a content server comprising:

a server memory for storing a plurality of screen names, wherein each of the plurality of screen names represents an event, and

a content processor coupled to the server memory, wherein the content processor is programmed to establish communication with an instant message server utilizing at least one of the plurality of screen names in response to the presence of the event represented by the at least one of the plurality of screen names; and

an instant message server coupled to the content server for managing the communication of one or more instant messages among a plurality of instant message devices, wherein the instant message server sends an instant message in response to the content server establishing communication with the instant message server.

5. An instant message communication system for providing notification of one or more events comprising:

a content server comprising:

a server memory for storing a plurality of screen names, wherein each of the plurality of screen names represents a topic, and

a content processor coupled to the server memory, wherein the content processor is programmed to establish communication with an instant message server utilizing at least one of the plurality of screen names in response to the presence of at least one event associated with the topic represented by the at least one of the plurality of screen names;

an instant message server coupled to the content server for managing the communication of one or more instant messages among a plurality of instant message devices, wherein the instant message server sends an instant message in response to the content server establishing communication with the instant message server; and

one or more instant message devices, wherein each instant message device includes an instant message user interface, wherein the instant message user interface displays for each of the plurality of topic screen names:

a topic screen name indicator, and

a topic screen name history, wherein the topic screen name history includes at least one identifier selected from the group of identifiers consisting of an event identifier, an event status, an event presence indicator, an event availability indicator, and an event buddy list, and further wherein at least one identifier changes in response to the instant message device receiving the presence of the event notification.

6. An instant message communication system for providing notification of one or more events comprising:

a content server for receiving and processing a plurality of content, wherein the plurality of content includes one or more icons associated with one or more events, the content server comprising:

a server memory for storing the one or more icons associated with the one or more events and further for storing a plurality of screen names, wherein each of the plurality of screen names represents at least one event, and

a content processor coupled to the server memory, wherein the content processor is programmed to establish communication with an instant message server utilizing at least one of the plurality of screen names in response to the content server receiving at least one icon; and

the instant message server coupled to the content server for managing the communication of one or more instant messages among a plurality of instant message devices, wherein the instant message server sends an instant message in response to the content server establishing communication with the instant message server.

7. A method for providing notification of one or more events within an instant message communication system having a server, the method comprising:

in the server:

storing a plurality of screen names, wherein each screen name represents one or more events;

detecting the presence of at least one event represented by at least one screen name of the plurality of screen names; and

activating the screen name indicating the presence of the event.

8. A method for providing notification of one or more events within an instant message communication system having a server, the method comprising:

in the server:

storing a plurality of screen names, wherein each screen name represents one or more events;

detecting the presence of event information associated with at least one event represented by at least one screen name of the plurality of screen names; and

activating the screen name indicating the presence of the event information.

9. A method for providing notification of one or more events within an instant message communication system having a server, the method comprising:

in the server:

storing a plurality of topic screen names, wherein each topic screen name represents at least one topic, wherein each topic includes one or more associated events;

detecting the presence of a first event associated with a topic represented by at least one topic screen name of the plurality of topic screen names; and

activating the topic screen name indicating the presence of the topic.

10. A method for providing notification of one or more events within an instant message communication system having a content server, an instant message server, and one or more instant message devices, the method comprising:

in the content server:

storing a plurality of screen names, wherein each of the plurality of screen names represents an event;

detecting the presence of an event represented by a screen name; and

establishing communication with the instant message server; and

in the instant message server:

sending an instant message to the one or more instant message devices including the screen name.

11. A method for providing notification of one or more events within an instant message communication system having a content server, an instant message server, and one or more instant message devices, the method comprising:

in the content server:

storing a plurality of screen names, wherein each of the plurality of screen names represents an event;

detecting the presence of event information associated with an event represented by a screen name; and

establishing communication with the instant message server; and

in the instant message server:

sending an instant message to the one or more instant message devices.

12. A method for providing notification of one or more events within an instant message communication system having a content server, an instant message server, and one or more instant message devices, the method comprising:

in the content server:

storing a plurality of topic screen names, wherein each of the plurality of topic screen names represents a topic;

detecting the presence of at least one event associated with a topic represented by a topic screen name; and

establishing communication with the instant message server utilizing the topic screen name;

in the instant message server:

sending an instant message including the topic screen name and the event;

in at least one instant message device:

receiving the instant message; and

displaying a topic screen name indicator on an instant message user interface wherein the topic screen name indicator is associated with the topic screen name.

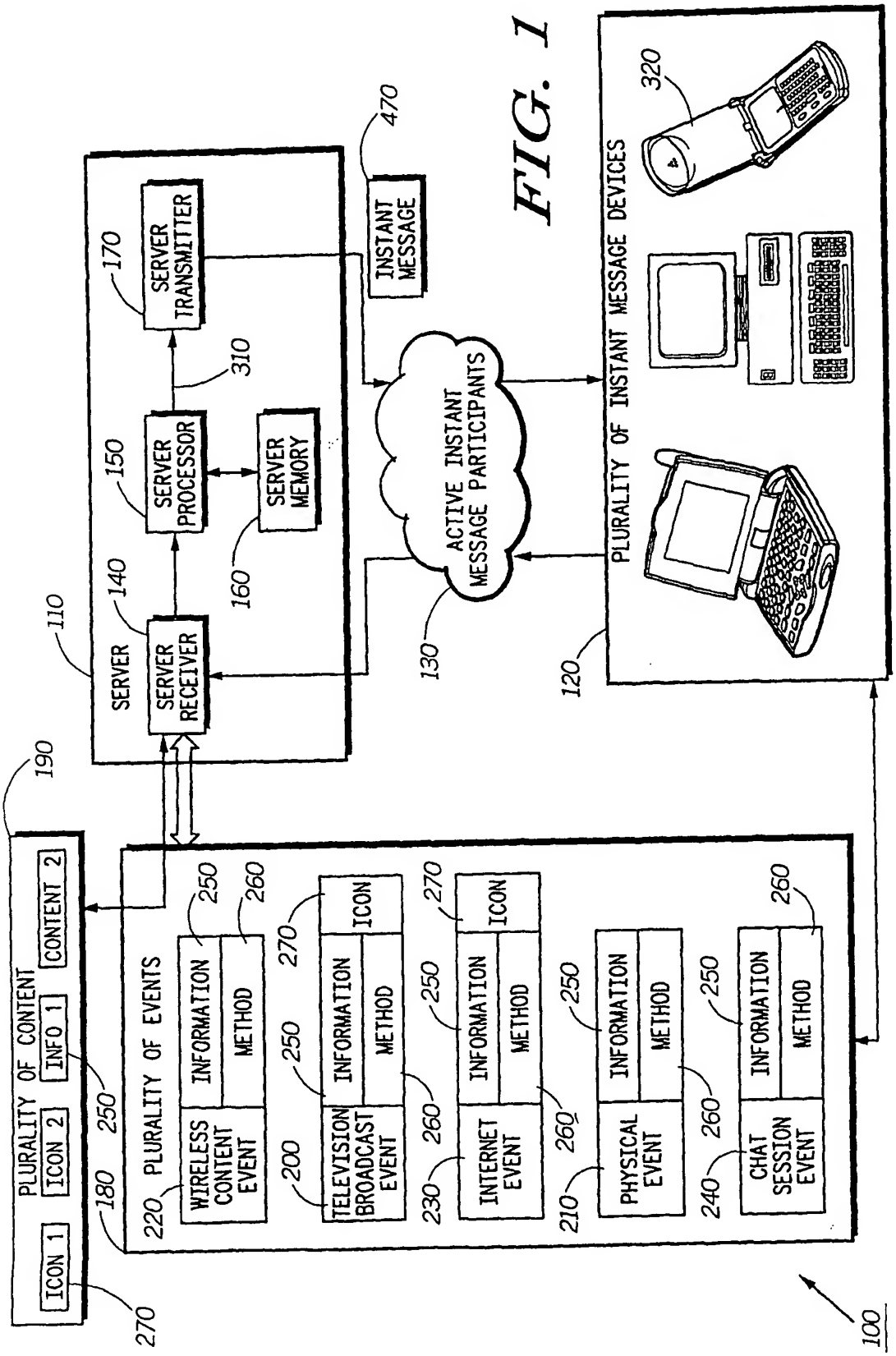

FIG. 1

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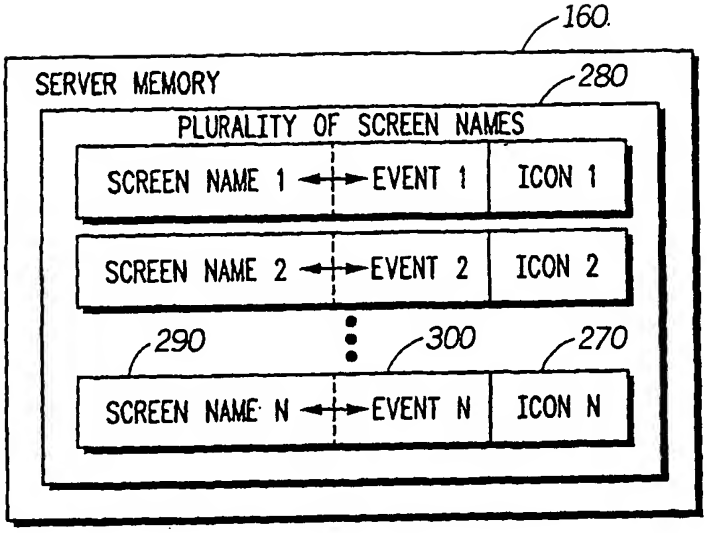
160
SERVER MEMORY
280
PLURALITY OF SCREEN NAMES
SCREEN NAME 1
EVENT 1
ICON 1
SCREEN NAME 2
EVENT 2
ICON 2
290
300
270
SCREEN NAME N
EVENT N
ICON N

FIG. 2

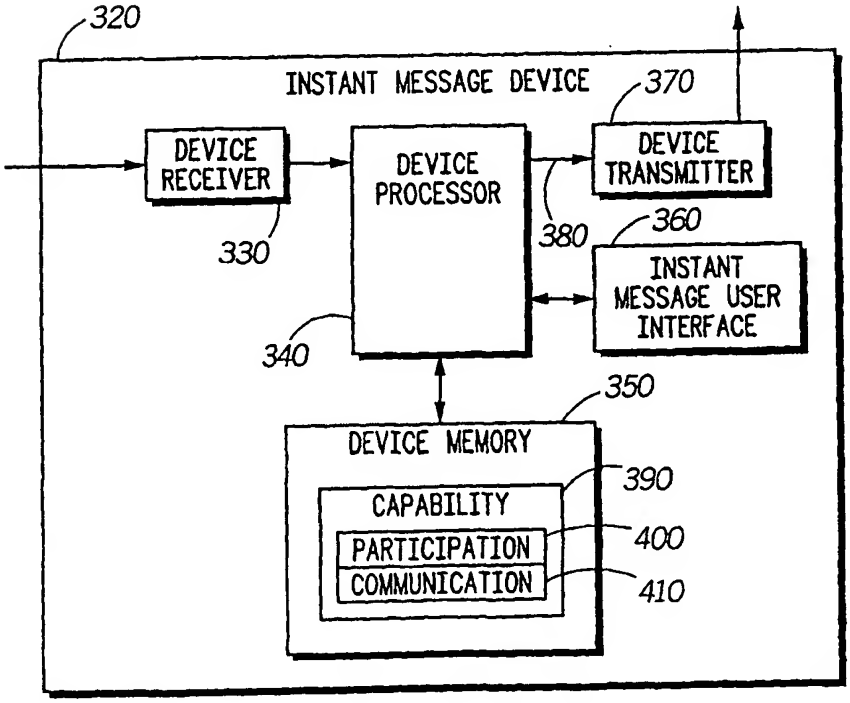
320
INSTANT MESSAGE DEVICE
370
DEVICE RECEIVER
DEVICE PROCESSOR
DEVICE TRANSMITTER
330
380
360
INSTANT MESSAGE USER INTERFACE
340
350
DEVICE MEMORY
390
CAPABILITY
PARTICIPATION
400
COMMUNICATION
410

FIG. 3

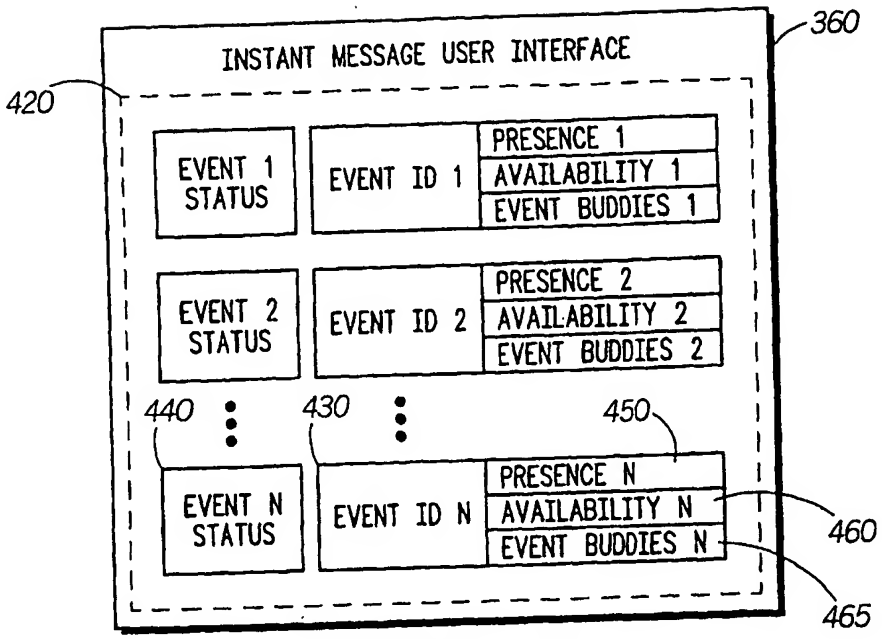

FIG. 4

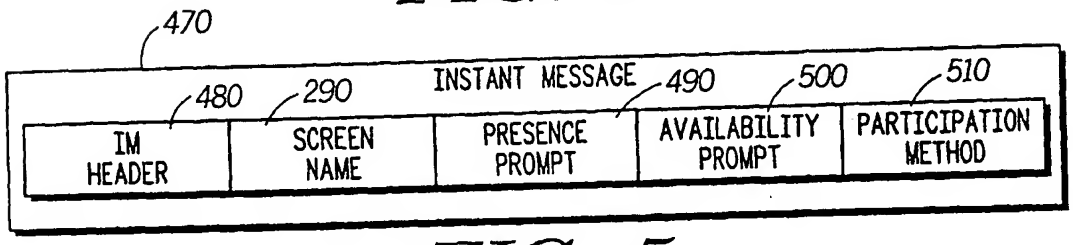

FIG. 5

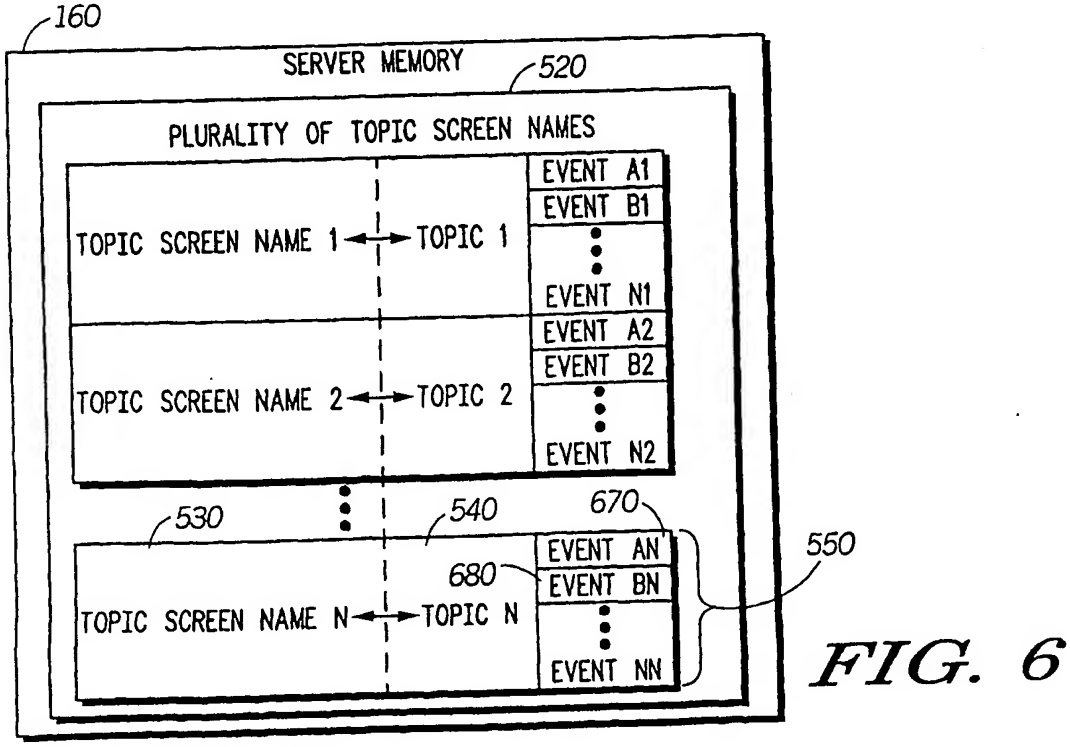

FIG. 6

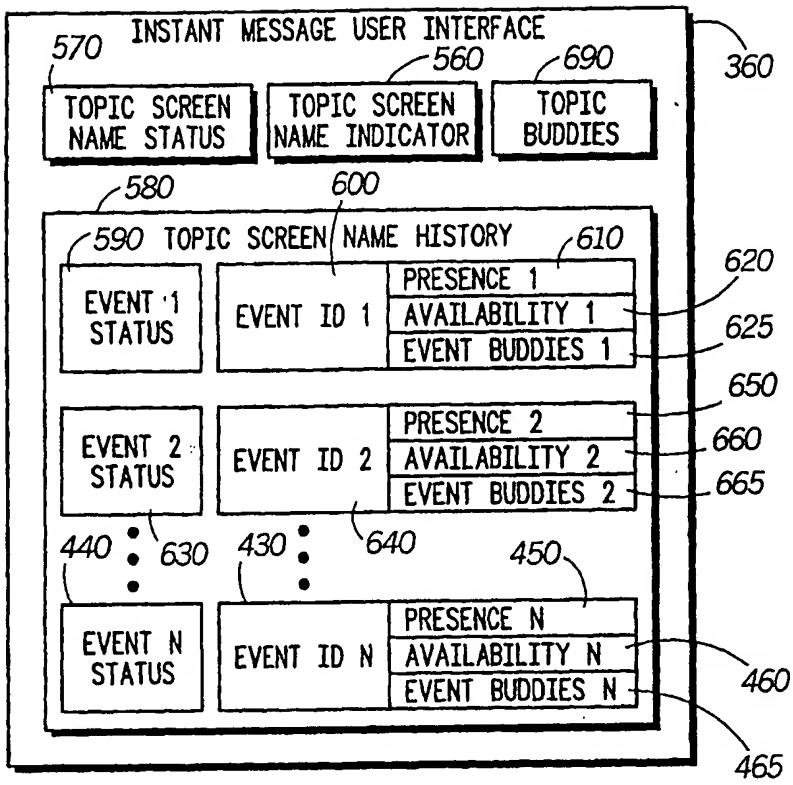

FIG. 7

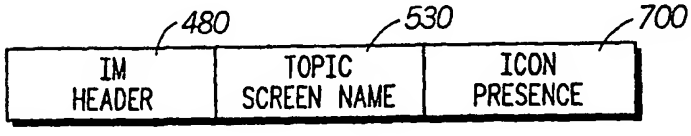

FIG. 8

ISDOCID: <WO_____03094012A1_I_>

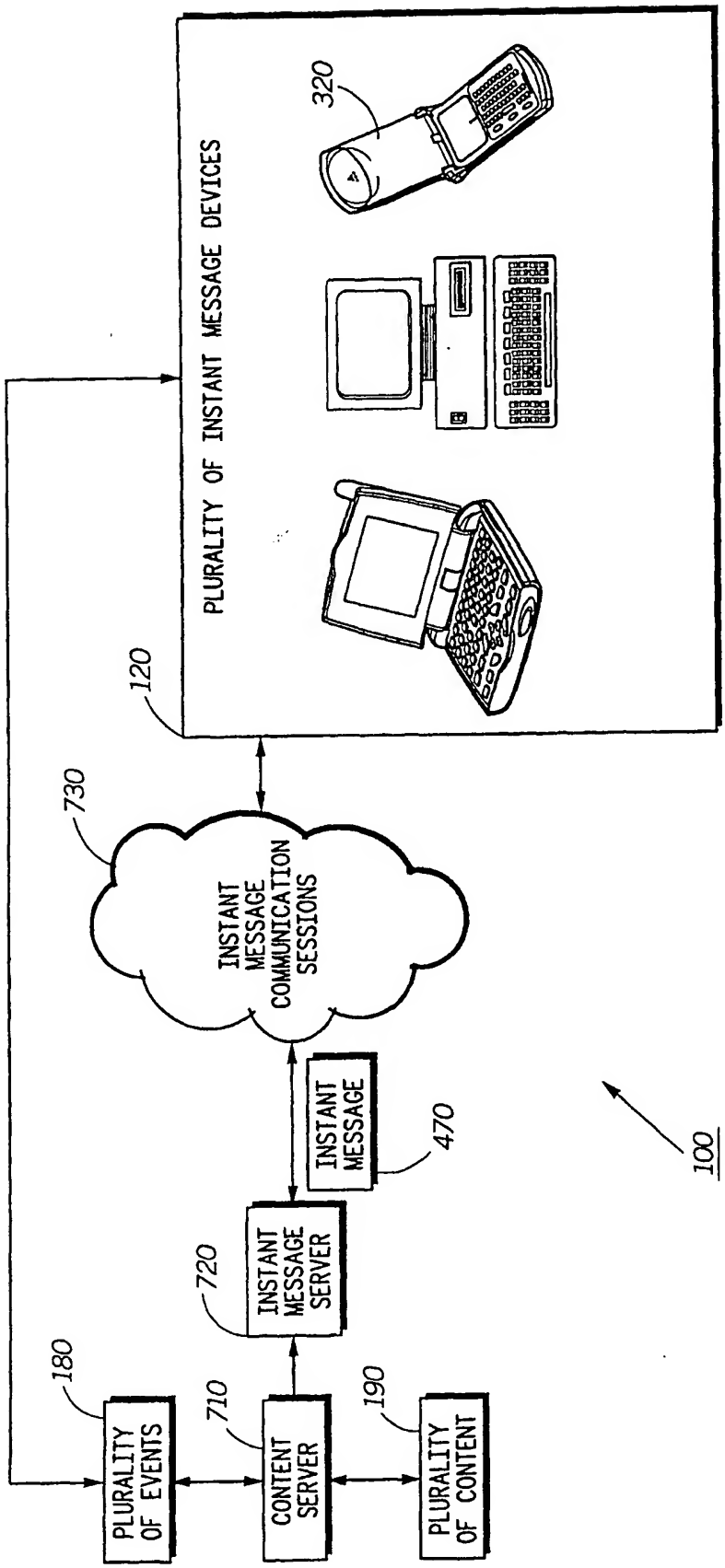
PLURALITY OF INSTANT MESSAGE DEVICES
320
120
730
INSTANT MESSAGE COMMUNICATION SESSIONS
INSTANT MESSAGE
470
100
720
INSTANT MESSAGE SERVER
180
710
190
PLURALITY OF EVENTS
CONTENT SERVER
PLURALITY OF CONTENT

FIG. 9

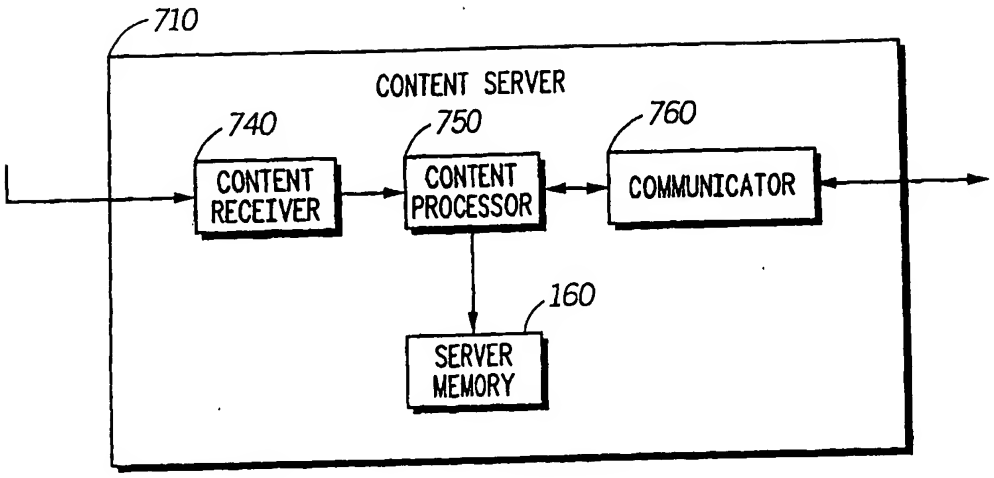
710
CONTENT SERVER
740
CONTENT RECEIVER
750
CONTENT PROCESSOR
760
COMMUNICATOR
160
SERVER MEMORY

FIG. 10

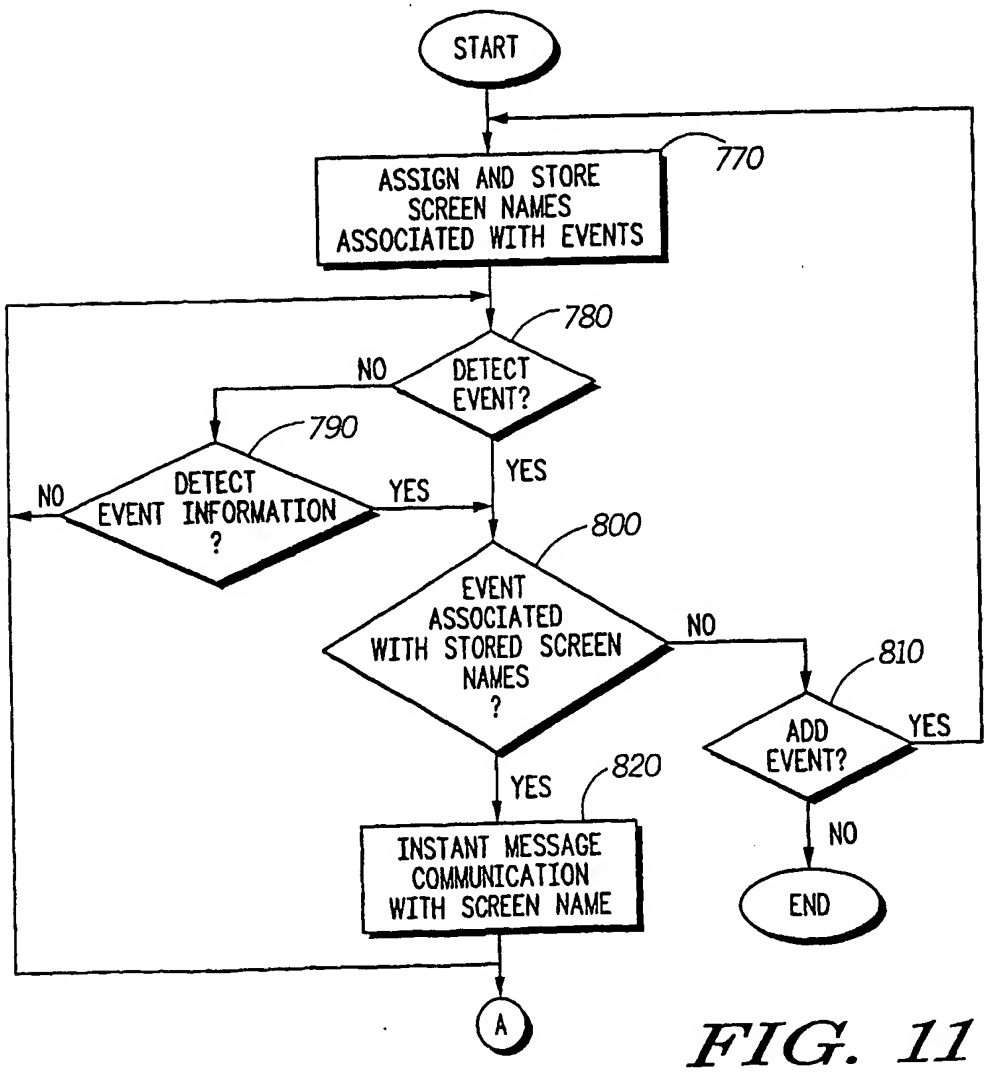
START
770
ASSIGN AND STORE SCREEN NAMES ASSOCIATED WITH EVENTS
780
DETECT EVENT?
NO
YES
790
DETECT EVENT INFORMATION ?
NO
YES
800
EVENT ASSOCIATED WITH STORED SCREEN NAMES ?
NO
YES
810
ADD EVENT?
YES
NO
820
INSTANT MESSAGE COMMUNICATION WITH SCREEN NAME
END
A

FIG. 11

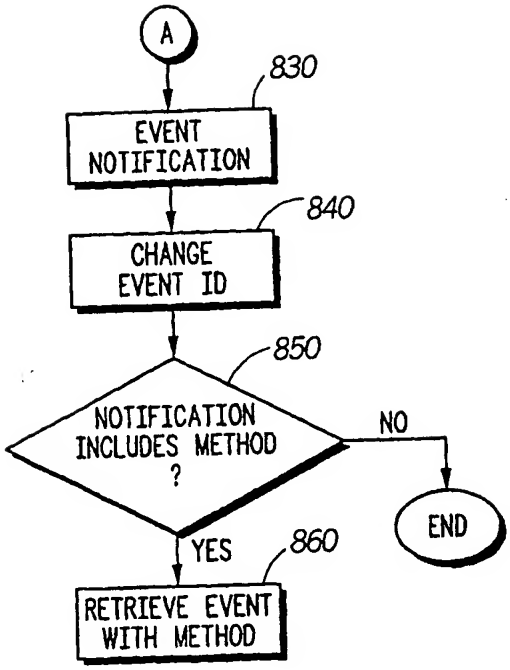
A
830
EVENT NOTIFICATION
840
CHANGE EVENT ID
850
NOTIFICATION INCLUDES METHOD ?
NO
END
YES
860
RETRIEVE EVENT WITH METHOD

FIG. 12

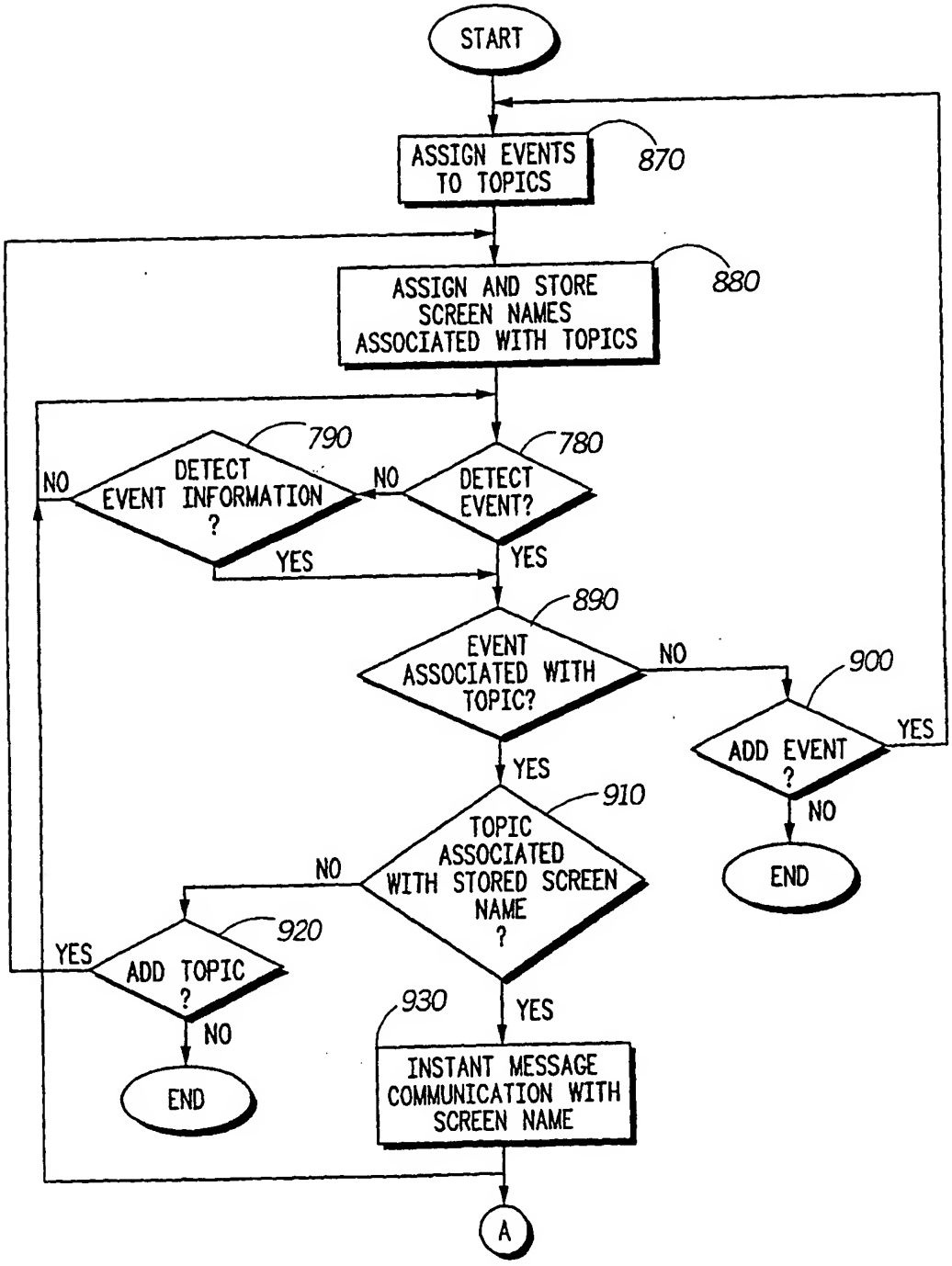
START
ASSIGN EVENTS TO TOPICS
870
ASSIGN AND STORE SCREEN NAMES ASSOCIATED WITH TOPICS
880
DETECT EVENT?
780
NO
YES
DETECT EVENT INFORMATION ?
790
NO
YES
EVENT ASSOCIATED WITH TOPIC?
890
NO
YES
ADD EVENT ?
900
YES
NO
END
TOPIC ASSOCIATED WITH STORED SCREEN NAME ?
910
NO
YES
ADD TOPIC ?
920
YES
NO
END
INSTANT MESSAGE COMMUNICATION WITH SCREEN NAME
930
A

FIG. 13

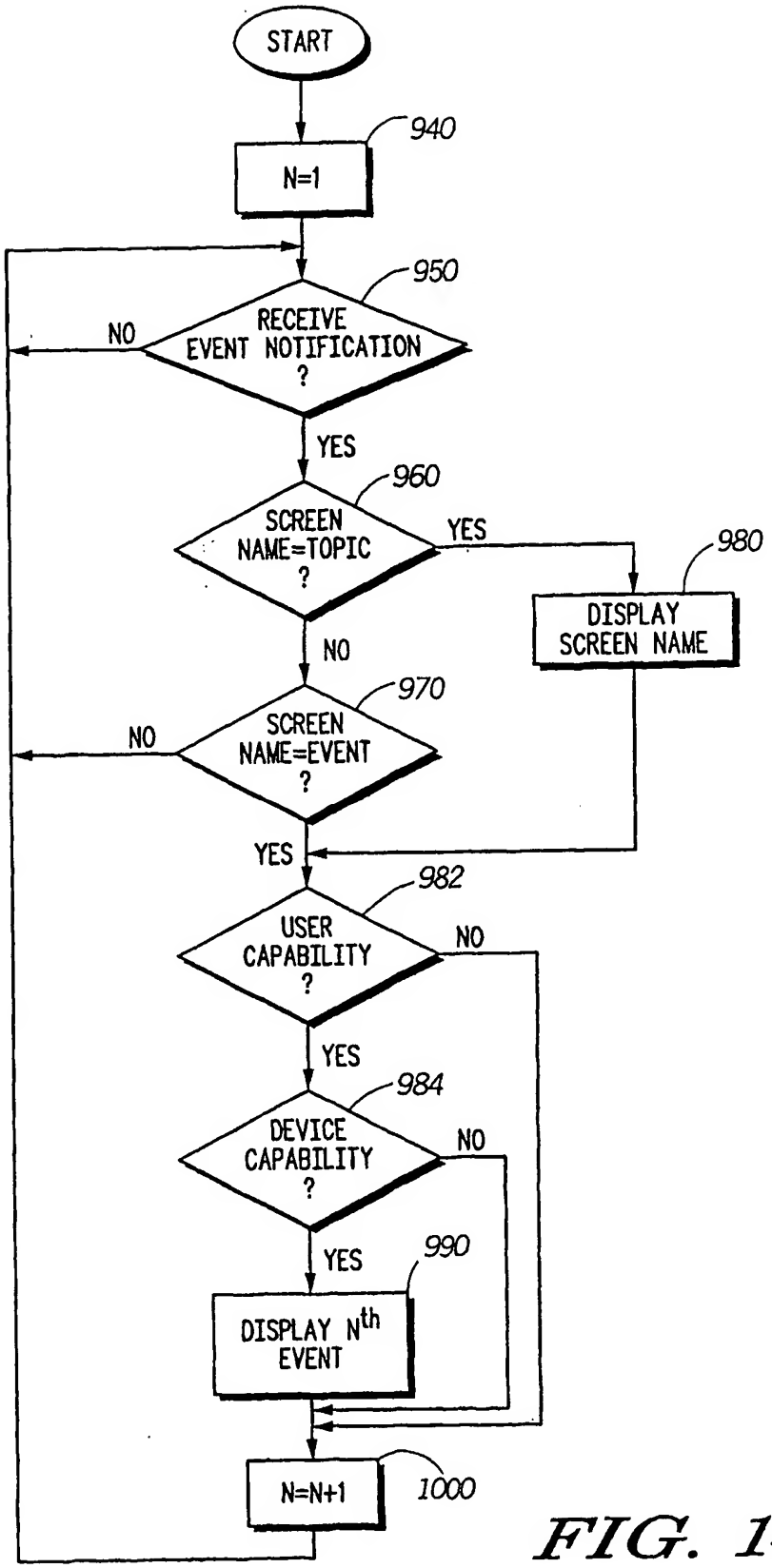

FIG. 14

BNSDOCID: <WO_____03094012A1_I_>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/12765

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G06F 15/16
US CL : 709/206
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 709/206

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,301,609 B1 (ARAVAMUDAN et al) 09 OCTOBER 2001, ABSTRACT, FIGURE 1, FIGURE 5, COL. 2, LINES 25-49.	1-12
Y	US PG PUB 2002/0035605 A1 (MCDOWELL et al) 21 MARCH 2002, ABSTRACT, WHOLE DOCUMENT	1-12
Y,P	US 6,430,602 B1 (KAY et al) 06 AUGUST 2002, ABSTRACT, WHOLE DOCUMENT	1-12

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
07 August 2003 (07.08.2003)

Date of mailing of the international search report
26 AUG 2003

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Authorized officer
William C. Vaughn, Jr. Peggy Harrod
Telephone No. (703) 305-9700

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

PCT/US03/12765

Continuation of B. FIELDS SEARCHED Item 3:
EAST, NPL, INTERNET
search terms: mobile, cellular, pda, wireless, instant message, email,

BNSDOCID: <WO_____03094012A1_I_>